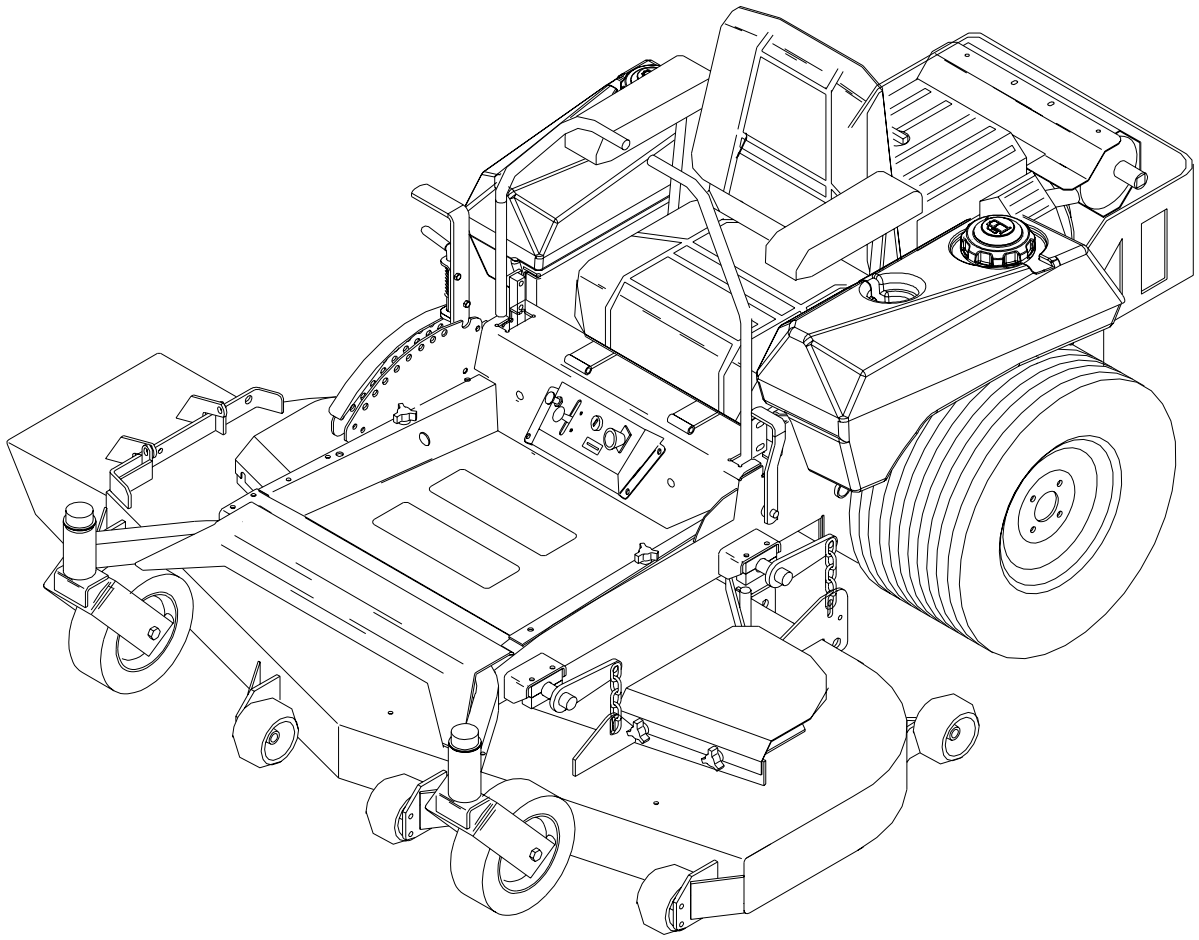
YAZOO/KEES



Operators manual

Please read these instructions carefully and make sure you understand them before using the machine.

Models:

ZVKH52230
ZVKH61250
ZVKE61260
ZVKH61270
ZVKE72260
ZVKH72270
ZVKHL61230
ZVKW52250
ZVKW61230
ZVKW61250

MANUAL NO. 106150 REV. 01 (04/19/02)

Congratulations on the purchase of your **YAZOO/KEES** mower. This manual has been prepared for the owners and operators of the models called out on the front cover of this manual. Read, understand and follow the safety and operating instructions.

! WARNING

Failure to follow cautious operating practices can result in serious injury to the operator or other persons. The owner must understand these instructions, and must allow only trained persons who understand these instructions to operate the mower. Each person operating the mower must be of sound mind and body and must not be under the influence of any mind altering substance.

! CAUTION

1. Keep all shields, guards and safety devices in place and in proper working condition.
2. Stop engine and remove spark plug wires or remove key before adjusting, servicing, or performing maintenance.

TECHNICAL ASSISTANCE

If you have any questions pertaining to your mower contact your dealer. To locate the nearest dealer please call: 1-877-368-8873 or for more information go our web site at **www.yazookees.com**

For technical assistance please write: Yazoo/Kees, 700 Park Street, Beatrice, Ne 68310
or call:1-877-368-8873

WARNING: Engine exhaust, some of it's constituents, and certain vehicle componets contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Continuous dedication to improve our products require that specifications and design are subject to change without notice.

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SAFETY INSTRUCTIONS

IMPORTANT !

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death. FIG - 1

FIG - 1

General use and safety rules:

Read , understand and follow all instructions in the manual and on the machine before starting.

Make yourself familiar with the controls and how to stop quickly.

Only allow adults who are familiar with the instructions and the machine to operate it.

The use of PPE’s such as (but not limited to) protection for the eyes, ears, feet and head is recommended.

Never use the machine barefoot or with open toed shoes. Wear substantial footwear and long pants.

Never wear loose fitting clothes which can catch in rotating or moving parts.

Clear the area of objects such as rocks, stones, toys, wire etc., which could be picked up and thrown by the blades.

Be sure the area is clear of all people and pets before mowing. Stop the machine if anyone enters the area.

Never carry passengers.

Do not cut in reverse unless absolutely necessary.

Always look down and behind before and during reversing.

Be aware of the mower discharge direction and do not direct it towards anyone.

SAFETY INSTRUCTIONS

Never operate the mower without the entire grass catcher or discharge chute in place.

Slow down before turning.

Never leave the machine unattended when the engine is running. Always turn off the blades, set the parking brake, stop the engine and take out the keys before leaving the machine.

Stop the blades when crossing surfaces other than grass; or when traveling to and from the area to be mowed.

Mow only in daylight or good artificial light.

Never use the machine when under the influence of alcohol or drugs.

Watch out for traffic when operating near or crossing roadways.

Use extra care when loading and unloading the machine onto a trailer or truck.

Never pull anything with the machine unless it is an authorized attachment from Husqvarna. A pull type trailer will not allow zero turn capabilities and could cause serious injury or damage to machine.

Driving on slopes

Slopes are a major factor related to loss-of-control and tip over accidents, which can result in serious injury or death. All slopes require extra caution. If you cannot reverse up the slope or you feel uncertain avoid mowing it.

Mow up and down slopes, not across.

Watch for holes, ruts or bumps. Uneven terrain could cause the machine to overturn.

Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction.

When turning on slopes always turn to the downhill side.

Do not mow excessively steep slopes.

Use extra care when using a grass catcher on slopes.

Avoid stopping and starting on slopes.

Do not cut wet grass. The tires will loose grip and the machine can slide.

Children safety

Tragic accidents can occur if the driver does not pay close attention to children in the area. Children are often attracted to the machine and the work of mowing. Never assume that children stay where you saw them last.

Keep children away from the mowing area and under adult supervision.

Be alert and turn off the machine if children enter the mowing area.

Never allow children to ride on the machine.

Never allow children to operate the machine.

Service safety

Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.

Store fuel in approved containers.

Never fill up the machine with fuel when it is running. Allow engine to cool before refueling. Do not smoke.

Never fill up with fuel indoors.

Never store machine or fuel containers inside where there is an open flame.

Never run the machine inside a closed area.

Keep all nuts and bolts tight to keep machine in safe operating condition.

Never tamper with safety devices. Check thier proper operation regularly.

SAFETY INSTRUCTIONS

Never operate the machine without proper guards, covers, safety switches and devices in place and properly functioning. Inspect these items regularly. If their condition or operation is questionable they must be replaced before using the machine. FIG - 2

Keep machine free of grass, leaves and other debris. Clean up oil, grease and fuel spills.

Stop and inspect the machine if you strike an foreign object. Repair any damage before restarting the machine.

Be extra careful when handling battery acid. Acid can cause severe burns.

Never smoke when performing maintenance on the battery. The battery can explode.

Do not alter the setting of the governor and do not race the engine.

Never make adjustments with the engine running.

Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with genuine parts, when necessary. FIG - 2

Mower blades are sharp and can cut. Wrap the blades or use leather gloves. Always use caution when handling them.

The machine is tested for safety and approved only for equipment supplied or recommended by Husqvarna.

Check the functioning of the brakes regularly. Adjust and maintain them as needed.

DANGER
THE MOWER SHALL NOT BE OPERATED WITHOUT EITHER THE ENTIRE GRASS CATCHER OR THE CHUTE DEFLECTOR COVERING THE GRASS DISCHARGE OPENING. DO NOT REMOVE THE GRASS CATCHER OR CHUTE DEFLECTOR FROM THE GRASS DISCHARGE OPENING UNTIL BLADE OR BLADES HAVE STOPPED.

FIG - 2

Transportation

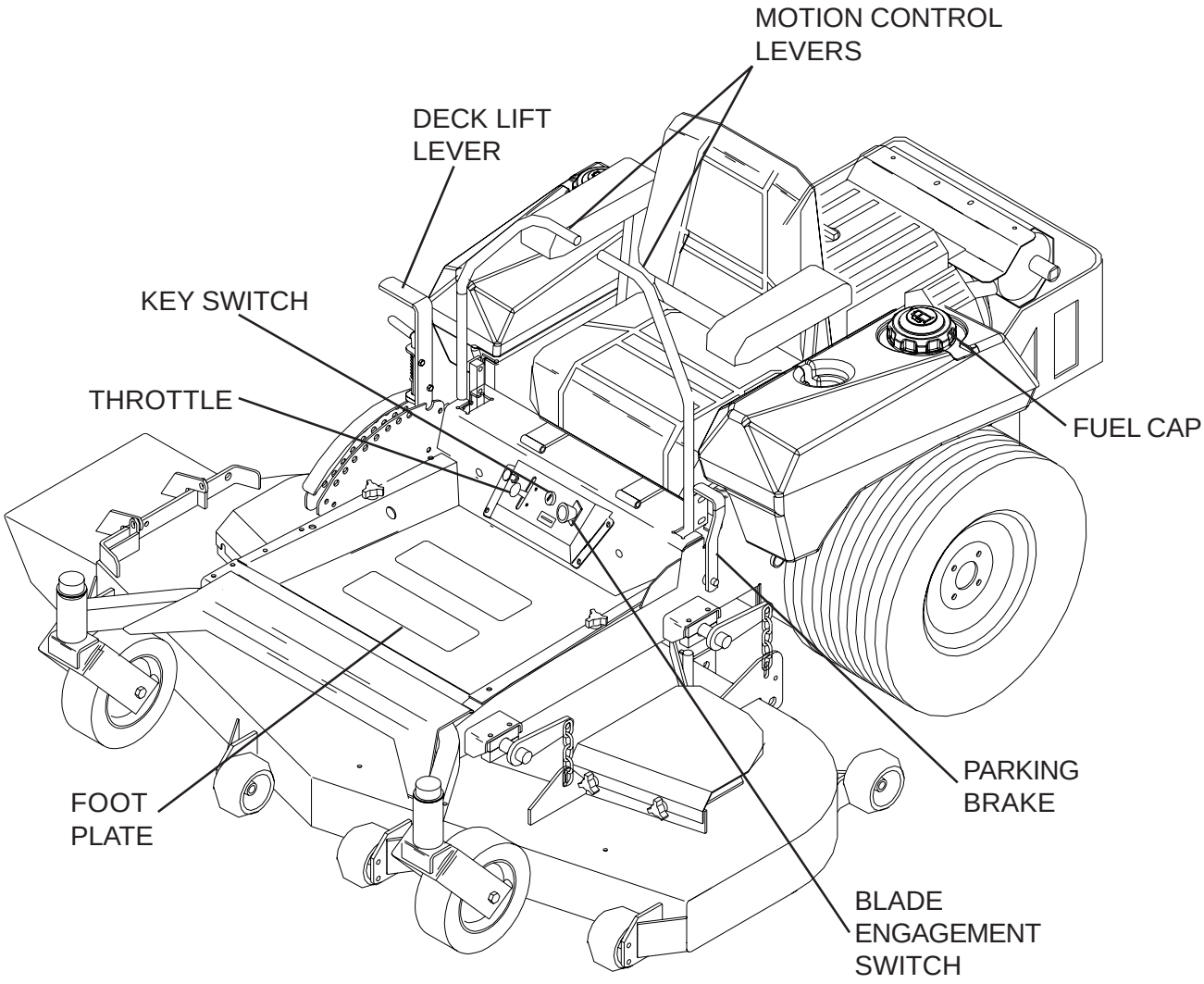
Use a heavy duty trailer to haul the machine. Set parking brake, turn off fuel valve and strap machine to trailer. NOTE: Parking brake will not hold machine when transporting. Be sure to tie down the machine to trailer. Back on the trailer to prevent possible tip over.

PRESENTATION

Presentation

Thank you for buying a **YAZOO/KEES!** Before operating your new mower, read, understand and follow the safety instructions and other directions in this manual.

Lawnmowers and all power equipment, can be potentially dangerous if used improperly. Safety requires good judgement, careful use in accordance with these instructions and common sense.



SETUP AND ADJUSTMENTS

WARNING: No settings or adjustments are to be made unless: Engine is stopped, key has been removed, park brake is on and battery cable removed from battery.

Setup

Uncrate machine.

Mount rear drive wheels using the lug nuts installed on the hubs.

Check the tire pressure in all four tires. All tires should be 15 psi.

Remove top bolt in control arm and loosen bottom bolt, rotate the control levers to the upright position. Align the levers so they are even in the neutral position. Reinstall hardware and tighten. FIG - 3

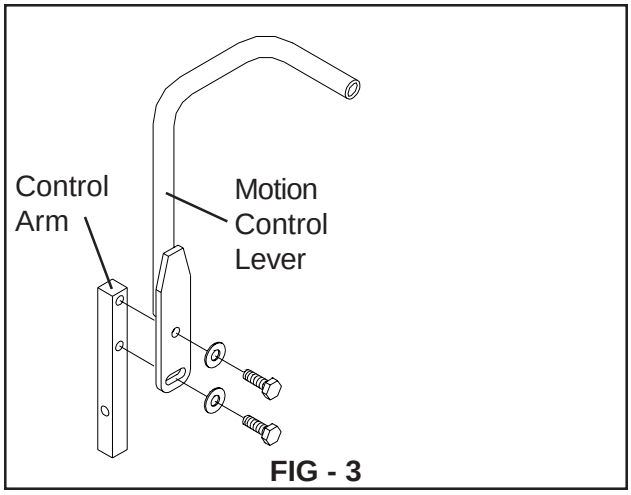


FIG - 3

Install seat rod to the seat frame with cotter pin in plastic bag. Seat rod is located under the seat in the hydraulic pump area.

Check engine oil with dip stick. Add if needed per the engine manufactures specifications. See engine manual for oil type and filling specifications. FIG - 4

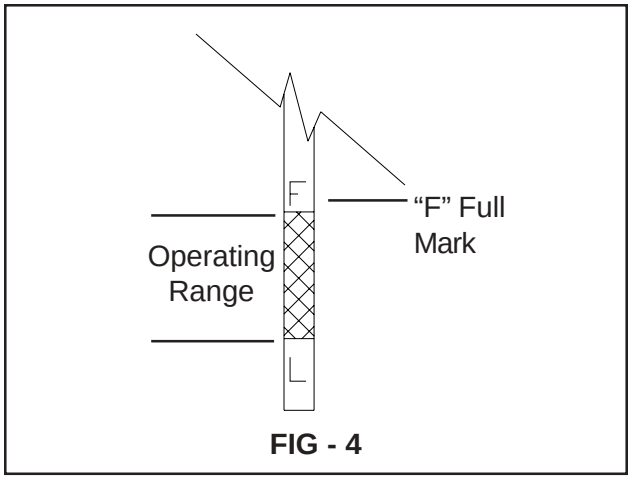


FIG - 4

Loosen the discharge chute slightly and lower into position. Chute should be snug but still pivot freely.

Install armrests to seat. Hardware and armrests are in the plastic bag.

Assemble the air cleaner hood to the inlet of the air filter, (EFI models only).

Adjustments

Cutting Height

Stop the mower and disengage the blades.

Raise the deck height lever to the transport position.

Remove the height adjustment pin and place it in the desired cutting height hole. Lower the lift lever down onto pin. NOTE: Anti-scalp rollers must be in the proper position for maximum deck floatation. See the decal on the front deck for proper settings. FIG - 5

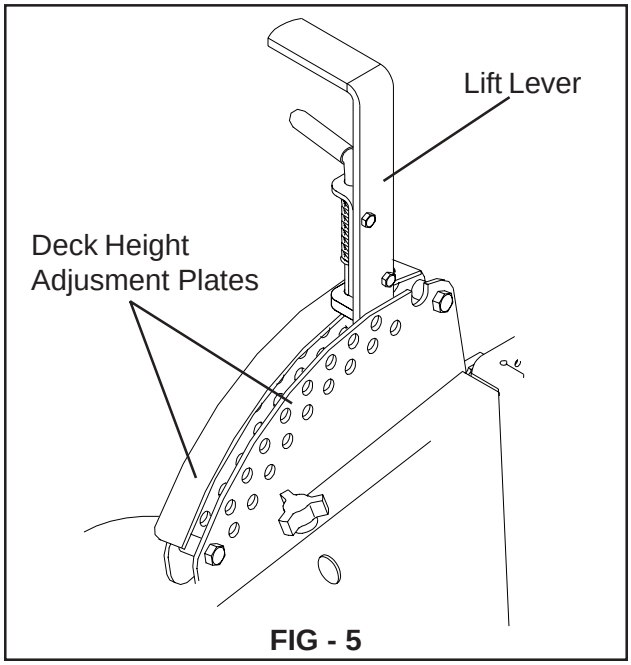


FIG - 5

SETUP AND ADJUSTMENTS

Mower Deck Leveling

Position machine on a flat surface. Preferably level concrete.

Check the tire pressure in all four tires. Inflation should be 15 psi.

Place 2x4's on edge under the cutting deck from front to rear and lower the deck down onto 2x4's.

Adjust the four lower chain bolts to the center slots on the deck. FIG - 6 NOTE: Make sure the lift blocks under the frame are tightly bolted to the frame.

Check the chains for equal tension. If unequal adjust lower chain bolt in slot.

Place the deck in the 6" cutting height and measure from the cutting edge of the blade to the flat level surface to check the deck cutting height.

Throttle Lever Tension

Stop engine and remove key.

Throttle lever tension may be adjusted by tightening the pivot bolt. The pivot bolt secures the throttle arm to the mounting bracket which is mounted to the console. Access is gained by removing the console.

Reverse Spring Detent Adjustment

Stop engine and remove key.

Pull the motion control lever back to the reverse position and release the lever. When the lever stops it should be in line with the neutral slot, so you can move the lever into neutral slot with out hitting the side of the console frame.

If adjustment is required put the seat in the rear most position on the slide, tilt the seat forward, remove the seat rod from seat frame and fold seat over forward onto the frame.

On the back of the console where the spring is fastened, loosen the 3/8" nut and bolt enough to allow the bolt to slide in the slot. FIG - 7

Rotate the motion control lever out into the neutral slot. While the lever is swung out into the neutral slot pull it against the the back edge of the neutral slot. Holding the lever adjust the spring by sliding the bolt in the slot to remove all the slop and retighten the bolt.

Check your adjustment by repeating the second step in this process.

If no more adjustment is needed reassemble the seat rod to the seat frame.

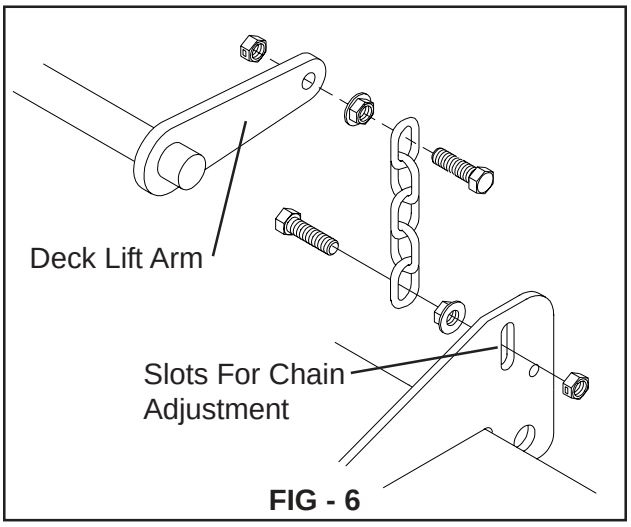


FIG - 6

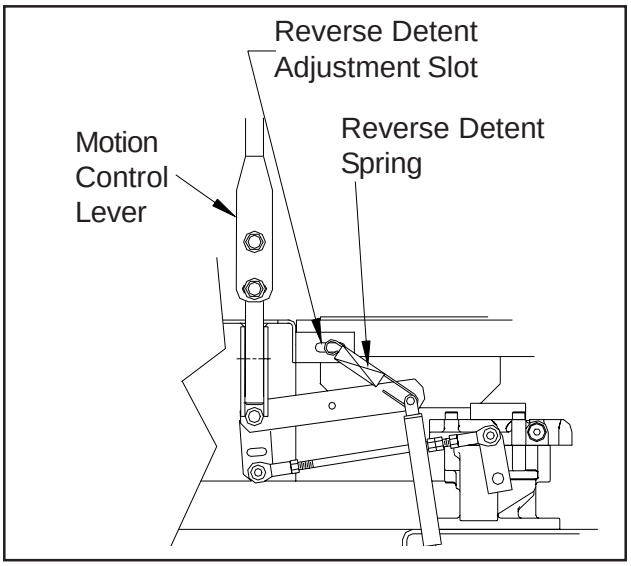


FIG - 7

SETUP AND ADJUSTMENTS

Park Brake Adjustment

When park brake is in the engaged position the distance between the trunion and the bolt head at the rear of the assembly should measure 1/8" to 1/4" and the spring should measure 1.25". To adjust the gap between the trunion and the bolt head loosen the nut against the yoke then turn the bolt head the proper direction to achive the proper gap. To adjust the length of the spring turn the nut against the spring the proper direction to lengthen or shorten the spring. This adjustment is the same for both sides. FIG - 8

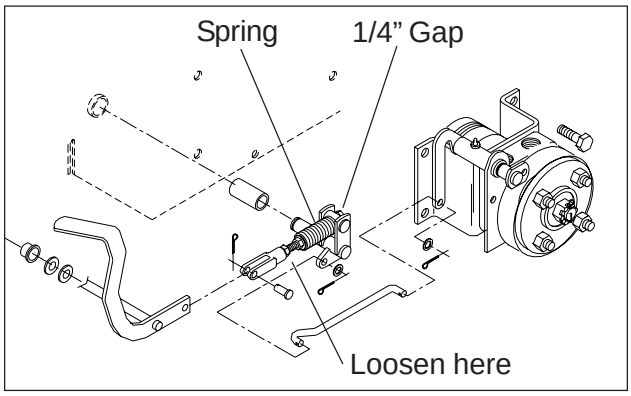


FIG - 8

- If brake lever trys to catch as you engage the brake the spring needs to be tightened. When you change the spring length you also have to maintain the 1/8" to 1/4" gap between the bolt head and the trunion.

NOTE: Do not force the brake lever into the on position if it is catching this will cause damage to the brake assembly.

- If brake squeaks while the machine is in use. The spring may be to tight or the gap between the bolt head and the trunion may be to large.

Motion Control Linkage Adjustment

This adjustment must be made with the rear wheels rotating. Raise the rear of the machine and block it up so the wheels are free to rotate. **CAUTION: Keep hands, feet and clothing away from rotating tires.**

Tilt seat forward and remove the seat rod so the seat may rotate forward onto the frame.

Place a 2x4 board between the foot plate and the center of the seat to engage the seat safety switch.

Loosen the nuts directly behind each ball joint on both rods that connect the pump arm to the motion control assemblies. FIG - 9

Start the engine. The park brake must be engaged and the motion control levers in the neutral slots to start the engine. Run the engine approximately half throttle

Release park brake to allow the wheels to rotate.

Begin with either side and put the motion control lever into the neutral position. Adjust the motion control linkage by rotating the double nuts in the proper direction until the wheel stops rotating. FIG - 9 Move the motion control lever forward then into the neutral position and place it into the neutral slot. The wheel must be stopped completely at this point. Now do the same in reverse and release the lever. The lever should return to neutral on its own. If not see reverse spring detent adjustment.

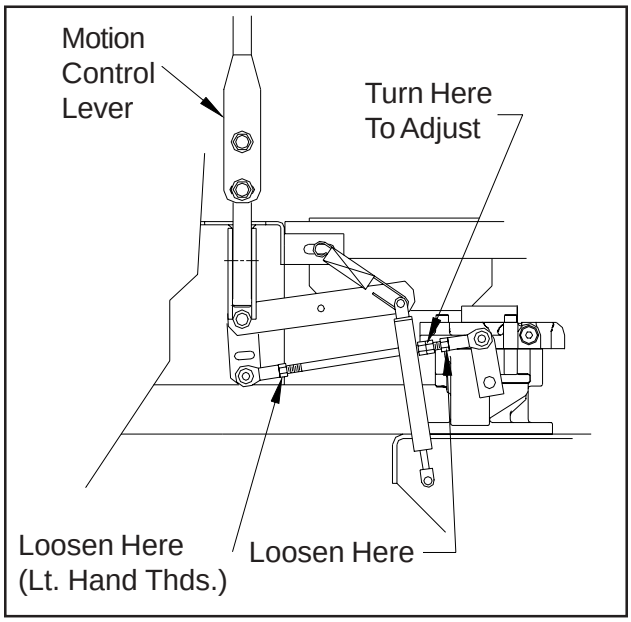


FIG - 9

Run engine full throttle to make sure wheels do not rotate. Readjust if any rotation occurs.

Repeat the whole process for the opposite side and tighten the nuts against the ball joints.

Turn machine off.

Reinstall the seat rod and check the wiring harness to the seat safety switch for a good connection and return the seat to the normal position.

Operating instructions

Starting and operation

Operator must be sitting in the seat. Engage the park brake, blades disengaged and the motion control levers in the neutral slots.

Set choke (if needed) turn key and release as soon as engine starts. Adjust throttle to half and shut choke off.

Release parking brake.

Close motion control levers.

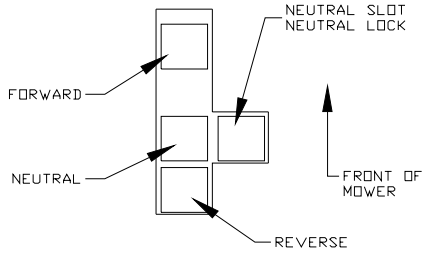
Engage blades and set RPM to maximum. CAUTION: Be sure all persons are clear of the area before engaging blades.

Controls

Be familiar with all controls their function and how to operate them before starting the machine.

Motion control levers on each side of the console control the direction of movement. See page 7. The left lever controls the flow of oil from the left hydro pump to the left wheel motor. The right lever controls the flow of oil from the right hydro pump to the right wheel motor.

NOTE: To begin motion the operator must be in the seat and the parking brake disengaged before the motion control levers can be moved from the neutral slots or the engine will kill. FIG - 10



Motion Control Lever Pattern
(Right Side)

FIG - 10

OPERATING INSTRUCTIONS

By moving the levers an equal amount forward or back the machine will move in a straight line in that direction. FIG - 11

Movement of either lever forward will cause the right or left wheel to rotate in a forward direction. To stop movement pull both levers into the neutral position.

To turn right while moving in a forward direction pull the right lever back towards the neutral position, this will slow the rotation of the right wheel and cause the machine to turn in that direction.

To turn left while moving in a forward direction pull the left lever back towards the neutral position, this will slow the rotation of the left wheel and cause the machine to turn in that direction.

To zero turn pull one lever back beyond neutral while holding the other slightly ahead of neutral. NOTE: The direction of the zero turn will be determined by which lever is pulled back beyond neutral. Thus left lever back, left zero turn and opposite for right zero turn. **Use extra care when using this maneuver the machine can spin very rapidly if one lever is positioned to far ahead of the other.**

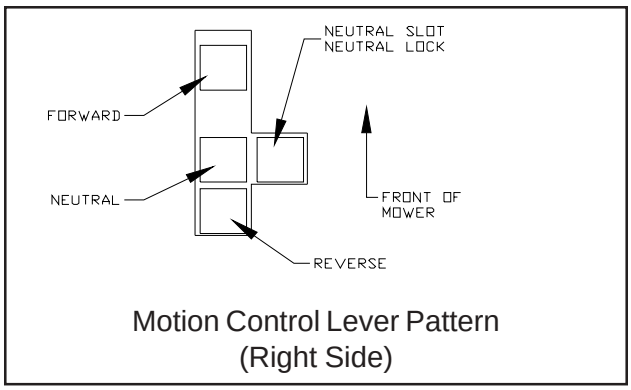
Blade engagement switch located on the console is engaged by pulling up on the switch and pushed down to disengage. FIG - 12

Choke control is located on the console. To choke engine pull knob push to release. FIG - 12

Throttle control is located on the console. Used to control engine RPM. FIG - 12

Parking brake is located on the left side of the machine and directly in front of the fuel tank. Pull the lever back to engage the brake and push lever forward to release the brake.

Key switch is located on the console. Used to start the machine. NOTE: Do not run the starter for more than 5 seconds at a time. If the engine will not start, wait about 10 seconds before trying again. FIG - 12



Motion Control Lever Pattern
(Right Side)

FIG - 11

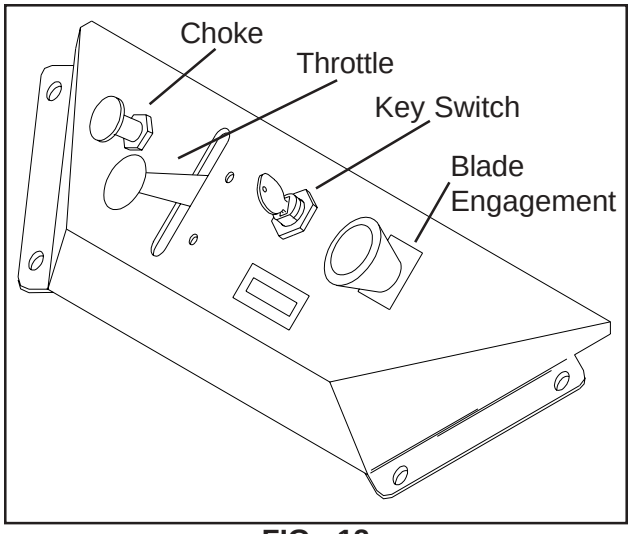


FIG - 12

MAINTENANCE

Fuel shut off valve is located at the right rear of the seat. The valve has three positions a right tank, left tank and center is the off position. FIG - 13. NOTE: EFI models the left position is the off position.

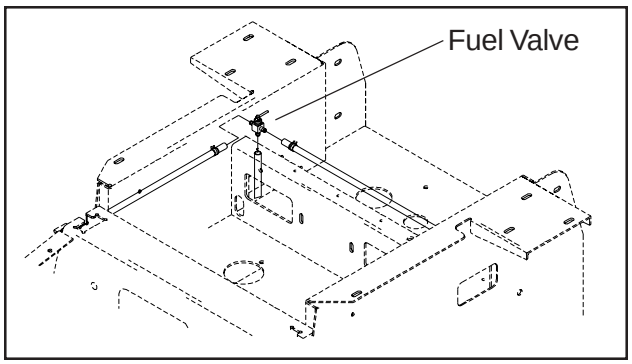


FIG - 13

Pump release valves located at the right front corner of the pumps. Used to release the system so the machine may be moved by hand when not running. Tilt seat forward to gain access to the pumps. Use a 5/8" wrench to open valve. NOTE: Only rotate valve 1/4 turn to release system.

Maintenance

WARNING: No settings, adjustments or maintenance is to be made unless: Engine is stopped, key has been removed, park brake is on and battery cable removed from battery.

Annual inspection and maintenance from an authorized **Yazoo/Kees** dealer is recommended to keep your machine in the best condition mechanically and ensures safe operation.

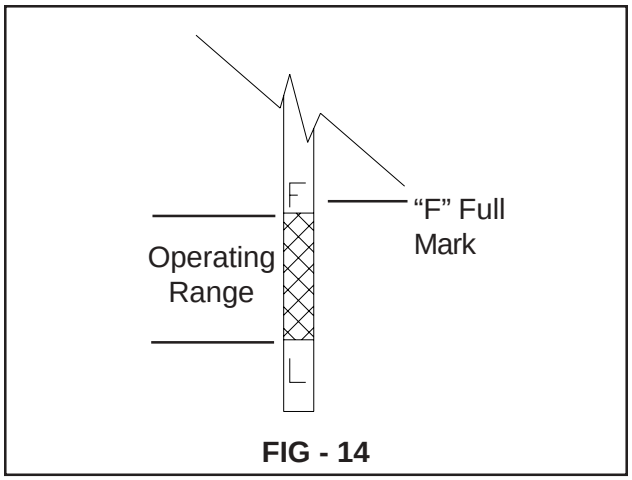


FIG - 14

Engine oil
Should be checked daily before starting the machine. See the engine manufacturers manual for specifications on type of oil, filling instructions and service intervals. FIG - 14

Mower blades
Inspect blades and sharpen or replace as needed. Check blades daily or as needed. Bent, cracked or blades with large notches in them should be replaced. Sharpen to an angle of 22 to 28 degrees. Always check the balance of the blades after sharpening to prevent excessive vibration.

Safety interlock system
Check daily and never operate the machine if the system is not functioning properly. The starter should crank only when the operator is in the seat, the parking brake is applied, blade switch off and the motion control levers in the neutral slots. If the machine starts with any of these controls in an operating position, turn the machine off an repair the system immediately.

MAINTENANCE

Hardware
Check daily. Inspect the entire machine for loose or missing hardware.

Air filter
See engine manufacturers specifications for cleaning and replacement intervals.

Hydraulic system
Check oil level in tank daily. Oil level should be 3/4" to 1" below the top of the tank. Check all fittings, hoses and lines for damage or leaks. Replace or repair any questionable lines or fittings.

Change the oil and filter after the first 250 hours of operation then annually after that. Drain tank and remove filter, be sure to clean around the tank and filter head before removal. Replace filter and drain plug and refill hydraulic tank. Only use MOBIL 1 synthetic oil. FIG - 15

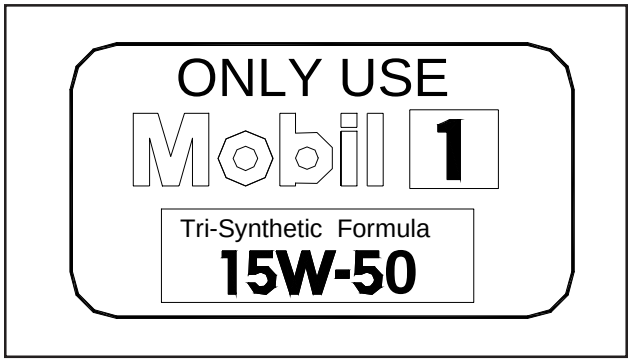


FIG - 15

Raise and block up the rear of the machine so the drive wheels can rotate freely. Start the engine at the lowest RPM possible, move the motion control levers forward and run machine for several minutes. Stop engine and recheck the oil level.

If the wheels do not respond an air lock has occurred within the system. The system must be bled off of air or let the machine set overnight to allow the air time to dissipate out of the oil. DO NOT run the machine with an air lock serious damage can occur to the pumps and wheel motors.

Deck belt
Check every 75 to 100 hours of operation. Check for severe cracking and large nicks. NOTE: The belt will show some small cracks in normal operation.

To replace belt lower the deck to its lowest position. Remove the foot plate and belt shields. Use a ratchet with a 9/16" socket on the spring idler bolt to relieve the tension on the belt. Slide the belt off of pulley and fully remove the belt. Reverse the proceedure for installation. See the decal on the top of deck for belt routing information. FIG - 16. After installation is complete check the belt for twists.

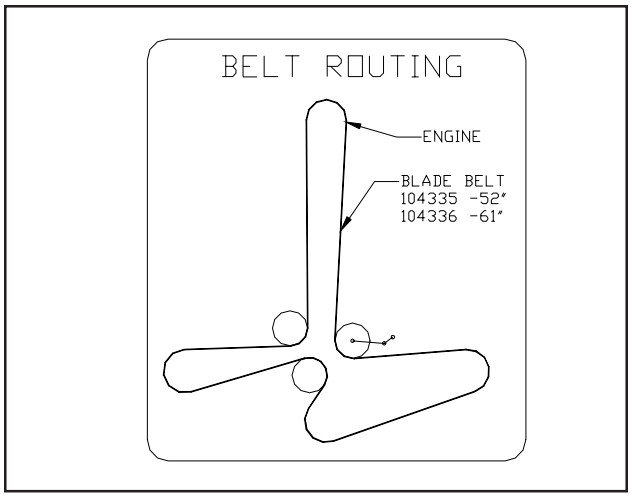


FIG - 16

MAINTENANCE

Pump belt

Check belt every 100 hours for excessive wear. To replace belt. Relieve tension on the deck belt and remove deck belt from clutch. See deck belt instructions on previous page. Loosen bolt on the clutch tie down and rotate out of the way. Using a 1/2” drive ratchet inserted into the square hole in the pump idler arm relieve the tension on the pump belt and remove belt. To reinstall belt. Swing pump idler pulley out toward engine to route belt around it. Then route belt around right side pulley first as you are looking up from the underside of machine. Reinstall idler spring and use the ratchet to rotate idler so the belt may be installed all the way around the last pulley.

Lubrication

See service decal under foot plate for service points and maintenance intervals. Clean grease zerks thoroughly before greasing. See engine manual for engine service. FIG - 17

Tire pressure

Check every 25 hours. All four tires require 15 psi.

Caster Wheels

Check every 200 hours. Lift front of unit off of ground so caster wheels can rotate freely. Tighten caster bolt then back off 1/2 turn. Check that wheel rotates freely. If wheel does not rotate freely back the caster bolt off in 1/4 turn increments until wheel rotates freely.

Fuel filter

Replace every 500 hours or annually. In extremely dirty conditions replacement may need to be at shorter intervals.

SERVICE DECAL

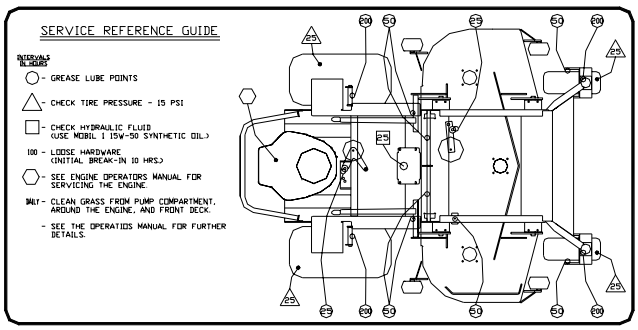

SERVICE REFERENCE GUIDE
INTERVALS IN HOURS
- GREASE LUBE POINTS
- CHECK TIRE PRESSURE - 15 PSI
- CHECK HYDRAULIC FLUID (USE MOBIL 1 15W-50 SYNTHETIC OIL)
100 - LOOSE HARDWARE (INITIAL BREAK-IN 10 HRS.)
- SEE ENGINE OPERATORS MANUAL FOR SERVICING THE ENGINE.
DAILY - CLEAN GRASS FROM PUMP COMPARTMENT, AROUND THE ENGINE, AND FRONT DECK.
- SEE THE OPERATIOS MANUAL FOR FURTHER DETAILS.

FIG - 17

Winter storage

To prepare the machine for storage. Clean the machine, especialy under the deck. Touch-up the paint or spray the underside of deck with a light coat of oil.
Inspect the machine for damage and loose hardware.
Change the oil.
Drain the fuel system or add stabilizer to fuel. Make sure to run the machine after to circulate stabilizer throughout system.
Remove the plugs and add 1 tablespoon of oil in each cylinder. Install plugs and crank the engine two or three revolutions.
Grease all zerks.
Remove battery and store inside and protect it from freezing temperatures.

MAINTENANCE

Torque Specifications

· Engine crankshaft bolt	67 Nm(50 ft/lb)
· Deck pulley bolts	61 Nm (45 ft/lb)
· Hydraulic tube nuts	41 Nm (30 ft/lb)
· Wheel motor hub nut	122 Nm (90 ft/lb)
· Lug nuts	100 Nm (75 ft/lb)
· Blade bolt	122 Nm (90 ft/lb)
· Standard ¼” fasteners	12 Nm (9 ft/lb)
· Standard 5/16” fasteners	25 Nm (18 ft/lb)
· Standard 3/8” fasteners	44 Nm (33 ft/lb)
· Standard 7/16” fasteners	70 Nm (52 ft/lb)
· Standard ½” fasteners	110 Nm (80 ft/lb)

MAINTENANCE

Maintenance Schedule

For ZTH Riders

Maintenance		Maintance Interval (hours)						
		Daily	25	50	100	200	250	500
Engine (4)								
	Check oil level	X						
	Change oil and filter (1)				X			
	Clean the air filter's (3)		X					
	Replace air filter's (3)				X			
	Check for fuel and oil leakage	X						
	Clean cooling flanges (3)				X			
	Check cooling air inlet	X						
	Check fuel pump's air filter	X						
	Replace fuel filter				X			
	Replace plugs				X			
Hydraulics								
	Check oil level	X						
	Check for oil leaks	X						
	Change hydraulic oil (2)						X	X
	Change oil filter (2)						X	X
Electrical								
	Check battery	X						
	Check the safety system	X						
Lubricate								
	Left and right brakes					X		
	Left and right motion control shafts			X				
	Left and right deck struts			X				
	Deck idler arm		X					
	Pump idler arm		X					
	Caster swivels					X		
	Caster tires			X				
	Deck lift lever			X				
	Throttle cable			X				
	Choke cable			X				
General								
	Check bolts and nuts	X						
	Check cutting deck		X					
	Clean cutting deck (3)	X						
	Clean pump compartment (3)	X						
	Check tire pressure (15 psi)		X					
	Check belts				X			
	Check and adjust throttle cable				X			

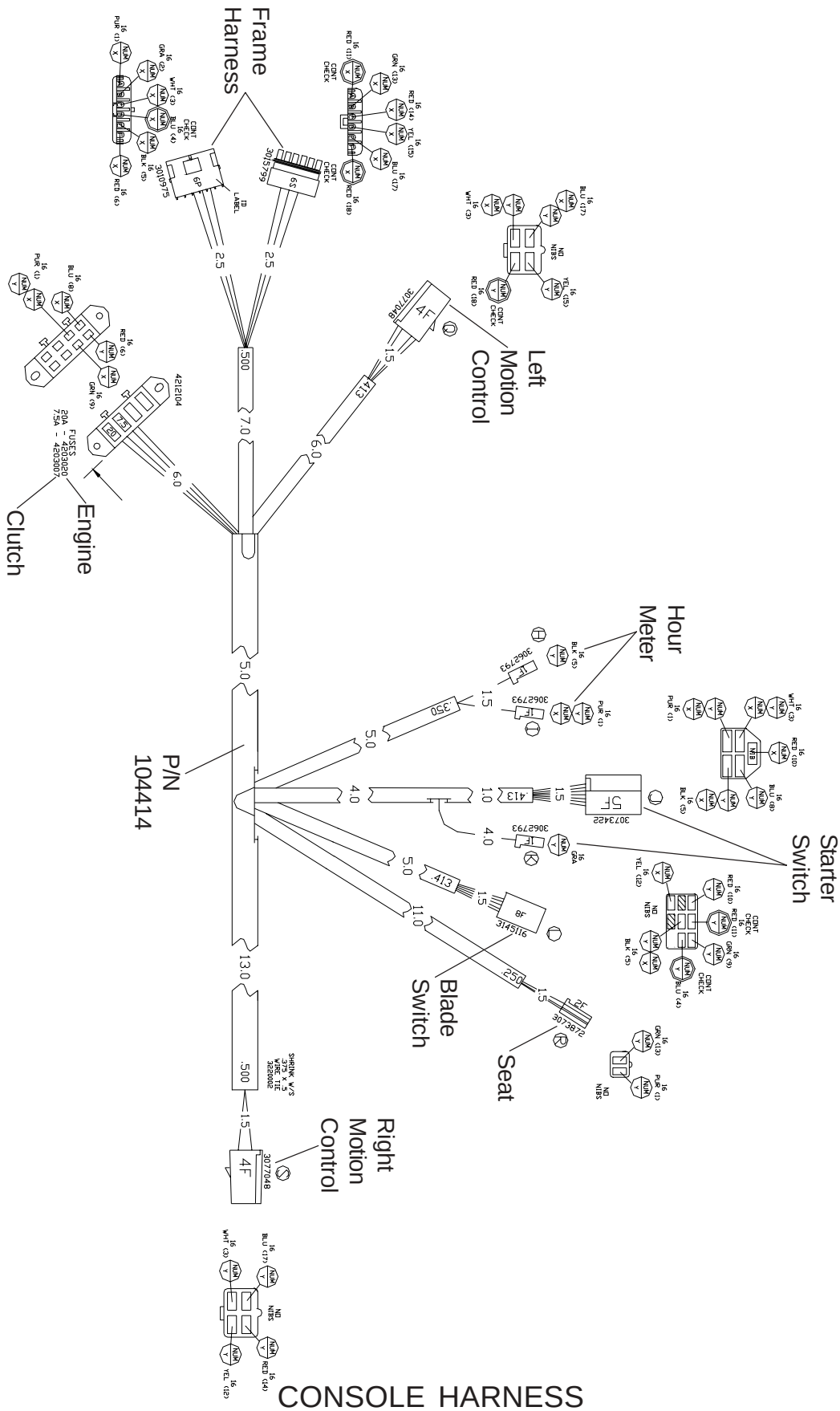
Notes:

1. Change engine oil and filter after first 50 hours and then every 100 hours.
2. Change hydraulic oil and filter after the first 250 hours or season and then every 500 hours.
3. During dusty or dry conditions cleaning and replacement should be more frequent.
4. Refer to engine manual for more information.

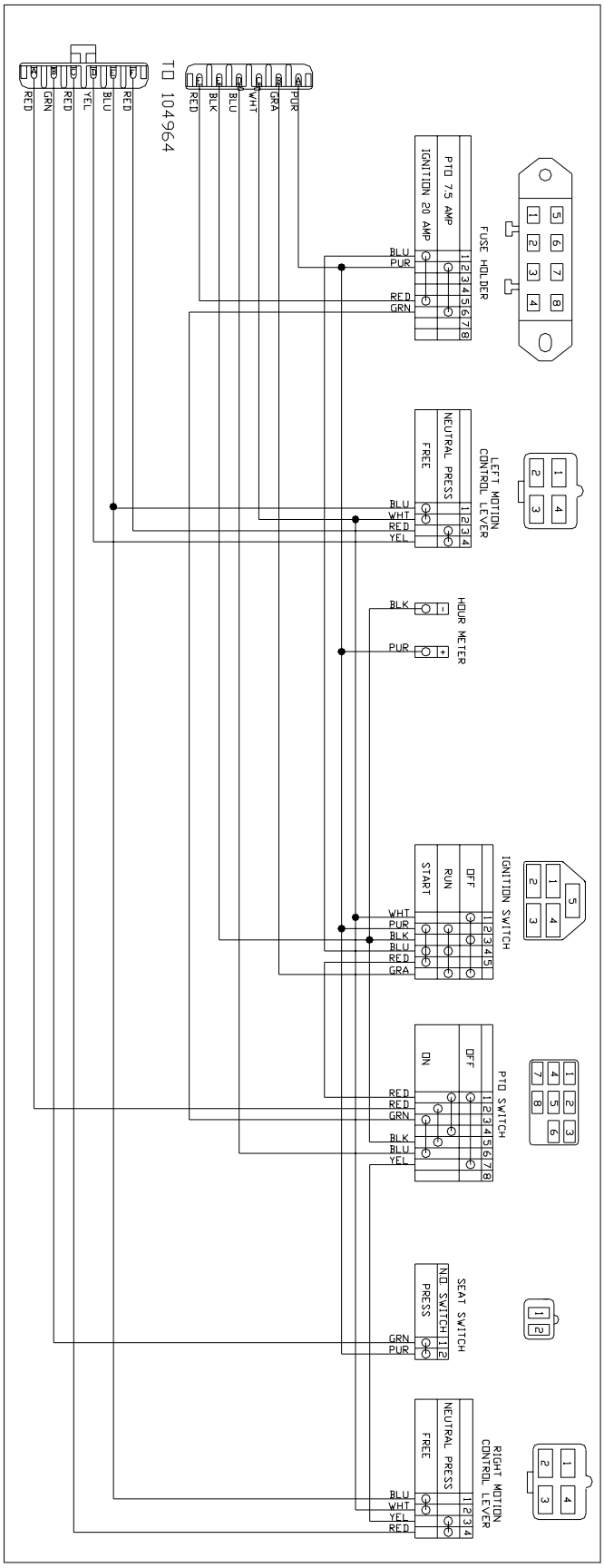
TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSES
ENGINE WILL NOT START.	Blade switch on. Drive levers not in the neutral slots. Operator not in seat. Park brake disengaged. Dead battery. Fuel valve closed or in the wrong position. No fuel. Spark plugs defective. Spark plug wires off.
MACHINE WILL NOT MOVE OR MOVES SLOWLY OR HARD.	Park brake on. Pump bypass valves open. Pump drive belt loose or off. Hydraulic system failure. Air in the hydraulic system.
BLADES WILL NOT ENGAGE.	Blade belt off. Clutch unhooked form wiring harness. Blade switch failure or unhooked from harness. Fuse burnt out.
UNEVEN CUT	Tire pressure uneven. Blades bent. Deck chains uneven. Deck lift blocks loose. Anti-scalp rollers set uneven.
CUT IS RAGGED	Blades dull. Ground speed to fast. Grass to long. Grass accumulation under deck.
MACHINE VIBRATION	Blades loose. Blades unbalanced. Engine loose from mounts.

WIRING DIAGRAMS

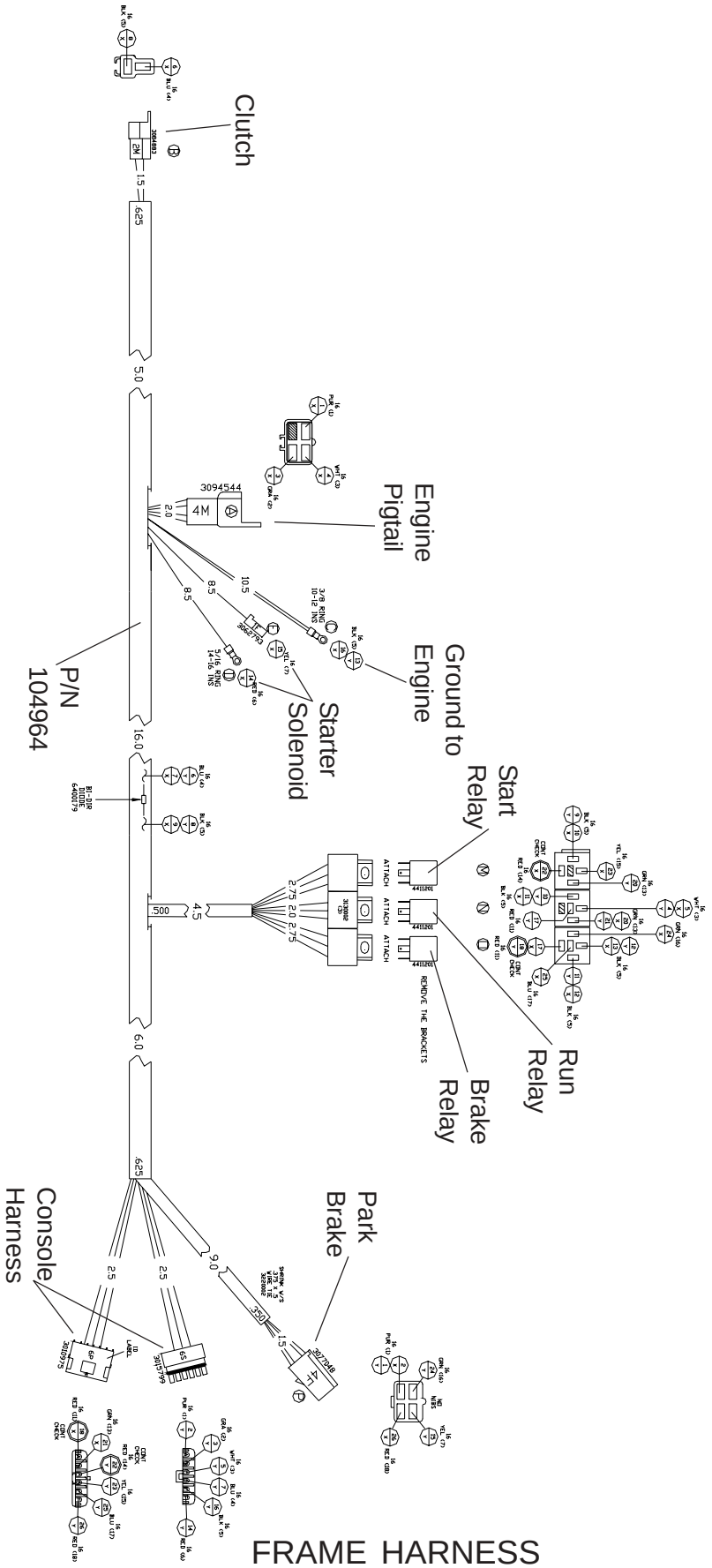


WIRING DIAGRAMS



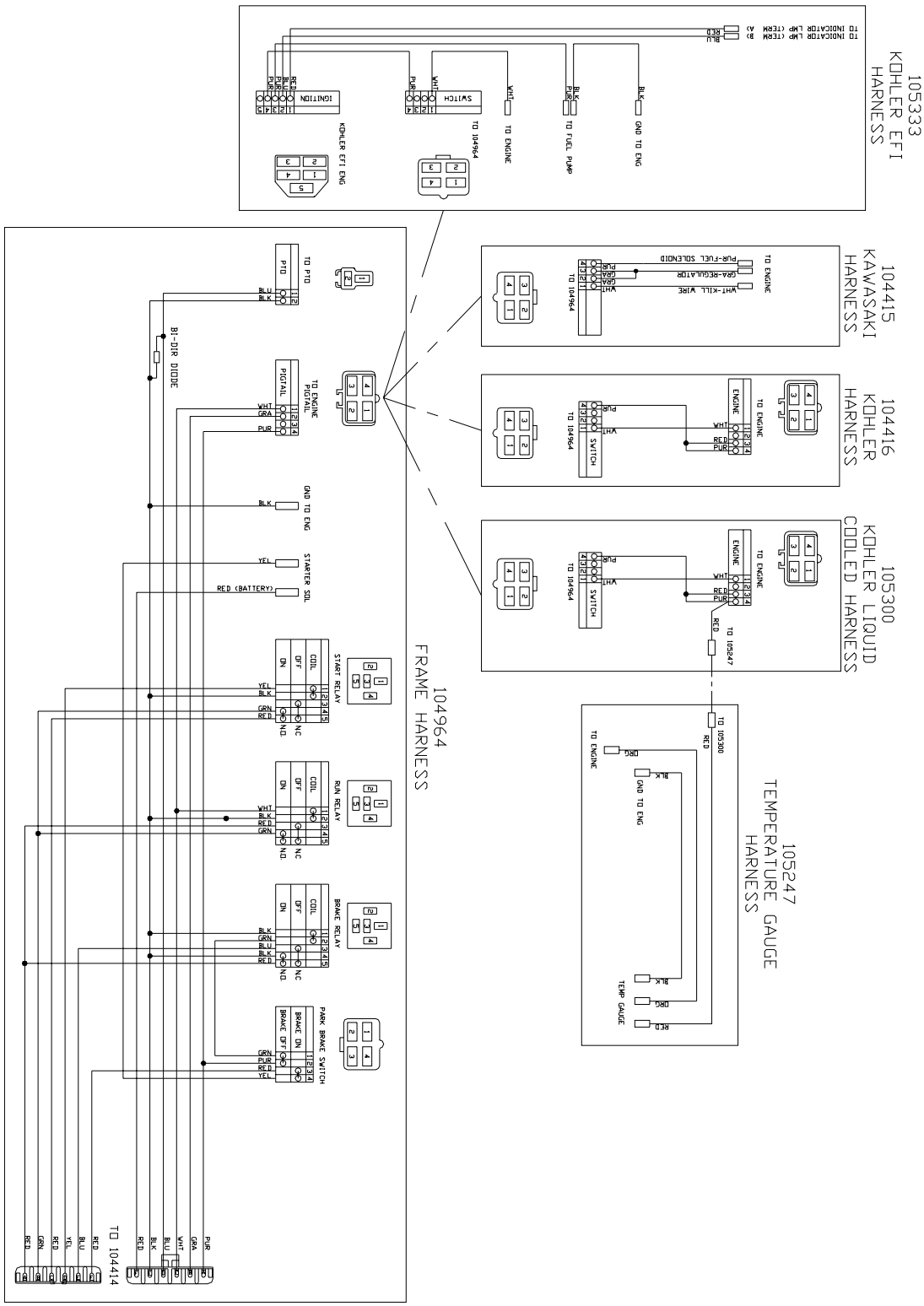
CONSOLE HARNESS

WIRING DIAGRAMS



FRAME HARNESS

WIRING DIAGRAMS



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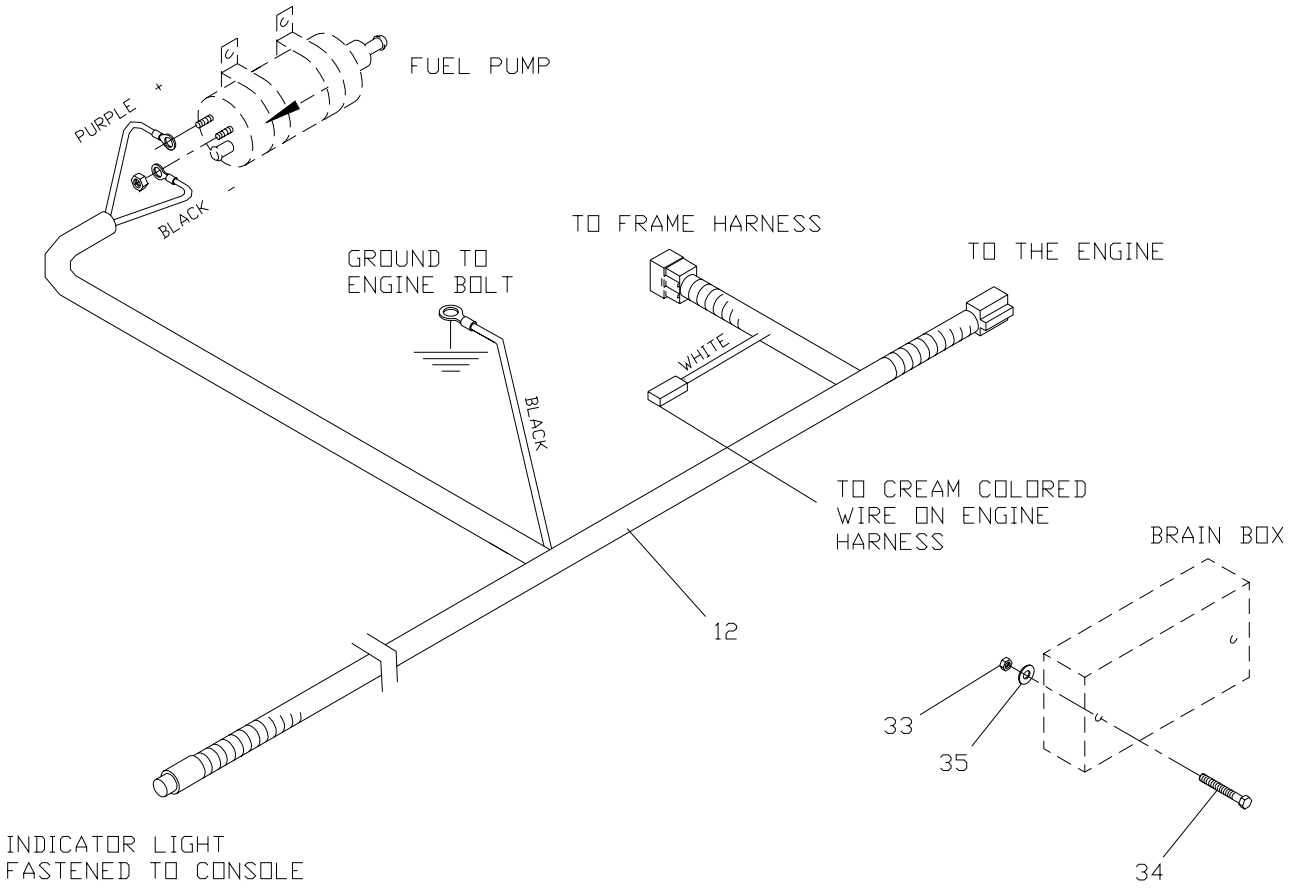

EFI HARNESS

YAZOO | KEES